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☐ 1. Document ID: WO 9923131 A1 DE 69805837 E AU 9913002 A EP 1028987 A1 BR 9813888 A CN 1278276 A US 6221494 B1 KR 2001031695 A MX 2000003808 A1 JP 2001521954 W EP 1028987 B1

L1: Entry 1 of 1

File: DWPI

May 14, 1999

DERWENT-ACC-NO: 1999-313311  
DERWENT-WEEK: 200253  
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TITLE: Ambient curable coating composition, for coating cars

INVENTOR: BARSOTTI, R J; CORCORAN, P H ; JAYCOX, G D ; LEWIN, L A

PATENT-ASSIGNEE:

ASSIGNEE

CODE

DU PONT DE NEMOURS &amp; CO E I

DUPO

PRIORITY-DATA: 1997US-064031P (November 3, 1997)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 9923131 A1	May 14, 1999	E	029	C08G018/42
DE 69805837 E	July 11, 2002		000	C08G018/42
AU 9913002 A	May 24, 1999		000	
EP 1028987 A1	August 23, 2000	E	000	C08G018/42
BR 9813888 A	September 26, 2000		000	C08G018/42
CN 1278276 A	December 27, 2000		000	C08G018/42
US 6221494 B1	April 24, 2001		000	C09D175/06
KR 2001031695 A	April 16, 2001		000	C08G018/42
MX 2000003808 A1	November 1, 2000		000	C08G018/42
JP 2001521954 W	November 13, 2001		050	C09D175/04
EP 1028987 B1	June 5, 2002	E	000	C08G018/42

DESIGNATED-STATES: AU BR CA CN JP KR MX AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL  
PT SE BE DE FR GB BE DE FR GB

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
WO 9923131A1	November 3, 1998	1998WO-US23337	
DE 69805837E	November 3, 1998	1998DE-0605837	
DE 69805837E	November 3, 1998	1998EP-0956486	
DE 69805837E	November 3, 1998	1998WO-US23337	
DE 69805837E		EP 1028987	Based on
DE 69805837E		WO 9923131	Based on
AU 9913002A	November 3, 1998	1999AU-0013002	
AU 9913002A		WO 9923131	Based on
EP 1028987A1	November 3, 1998	1998EP-0956486	
EP 1028987A1	November 3, 1998	1998WO-US23337	
EP 1028987A1		WO 9923131	Based on
BR 9813888A	November 3, 1998	1998BR-0013888	
BR 9813888A	November 3, 1998	1998WO-US23337	
BR 9813888A		WO 9923131	Based on
CN 1278276A	November 3, 1998	1998CN-0810872	
US 6221494B1	March 18, 1999	1999US-0272718	
KR2001031695A	May 2, 2000	2000KR-0704758	
MX2000003808A1	April 18, 2000	2000MX-0003808	
JP2001521954W	November 3, 1998	1998WO-US23337	
JP2001521954W	November 3, 1998	2000JP-0519000	
JP2001521954W		WO 9923131	Based on
EP 1028987B1	November 3, 1998	1998EP-0956486	
EP 1028987B1	November 3, 1998	1998WO-US23337	
EP 1028987B1		WO 9923131	Based on

INT-CL (IPC): C08 G 18/42; C09 D 175/04; C09 D 175/06

ABSTRACTED-PUB-NO: EP 1028987B

BASIC-ABSTRACT:

NOVELTY - Ambient curable coating composition (I) includes a binder (II) that comprises:

(A) a hydroxyl component of a cycloaliphatic moiety containing reactive oligomer having a GPC weight average molecular weight Mw of up to 3000 and a polydispersity not exceeding 1.7, and having at least two hydroxyl groups of which at least one on average is a prim. hydroxyl group; and

(B) a crosslinking component comprising an oligomeric crosslinker having at least two isocyanate groups, whereby the ratio of isocyanate to hydroxyl group equivalents = 0.5:1-3:1.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for producing a coating on the surface of a substrate by mixing (A) and (B), followed by application of the mixture and curing at ambient temperature.

USE - Used in automotive refinish applications.

ADVANTAGE - The composition has a low volatile organic compound content, cures rapidly under ambient conditions and has good mar-resistance and resistance to environmental etching.

ABSTRACTED-PUB-NO:

US 6221494B

EQUIVALENT-ABSTRACTS:

NOVELTY - Ambient curable coating composition (I) includes a binder (II) that comprises:

(A) a hydroxyl component of a cycloaliphatic moiety containing reactive oligomer having a GPC weight average molecular weight Mw of up to 3000 and a polydispersity not

exceeding 1.7, and having at least two hydroxyl groups of which at least one on average is a prim. hydroxyl group; and

(B) a crosslinking component comprising an oligomeric crosslinker having at least two isocyanate groups, whereby the ratio of isocyanate to hydroxyl group equivalents = 0.5:1-3:1.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for producing a coating on the surface of a substrate by mixing (A) and (B), followed by application of the mixture and curing at ambient temperature.

USE - Used in automotive refinish applications.

ADVANTAGE - The composition has a low volatile organic compound content, cures rapidly under ambient conditions and has good mar-resistance and resistance to environmental etching.

NOVELTY - Ambient curable coating composition (I) includes a binder (II) that comprises:

(A) a hydroxyl component of a cycloaliphatic moiety containing reactive oligomer having a GPC weight average molecular weight Mw of up to 3000 and a polydispersity not exceeding 1.7, and having at least two hydroxyl groups of which at least one on average is a prim. hydroxyl group; and

(B) a crosslinking component comprising an oligomeric crosslinker having at least two isocyanate groups, whereby the ratio of isocyanate to hydroxyl group equivalents = 0.5:1-3:1.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for producing a coating on the surface of a substrate by mixing (A) and (B), followed by application of the mixture and curing at ambient temperature.

USE - Used in automotive refinish applications.

ADVANTAGE - The composition has a low volatile organic compound content, cures rapidly under ambient conditions and has good mar-resistance and resistance to environmental etching.

WO 9923131A

TITLE-TERMS: AMBIENT CURE COATING COMPOSITION COATING CAR

DERWENT-CLASS: A14 A18 A23 A25 A60 A82 A95 G02

CPI-CODES: A08-C09A; A08-D04A; A10-E01; A12-B01; A12-T05; G02-A02B;

ENHANCED-POLYMER-INDEXING:

Polymer Index [1.1] 018 ; G1070\*R G0997 D01 F29 F26 ; R00972 G1070 G0997 D01 D11 D10 D50 D85 F29 F26 ; G1401\*R G1398 G4024 D01 D65 F39 E00 ; R00515 G1401 G1398 G4024 D01 D24 D22 D32 D42 D50 D65 D77 D88 F39 E00 E24 ; G1558\*R D01 F47 G1569 G1558 D11 D10 D23 D22 D31 D42 D50 D73 D82 F47 ; R00370 G1558 D01 D11 D10 D23 D22 D31 D42 D50 D73 D83 F47 ; H0237\*R ; L9999 L2595\*R L2506 ; L9999 L2391 ; L9999 L2073 ; M9999 M2073 ; S9999 S1627 S1605 ; L9999 L2186\*R ; L9999 L2200 ; L9999 L2744 L2733 ; K9370 ; P0055 Polymer Index [1.2] 018 ; ND01 ; Q9999 Q7114\*R ; Q9999 Q7158\*R Q7114 ; Q9999 Q7170 Q7158 Q7114 ; Q9999 Q9234 Q9212 ; K9483\*R ; K9676\*R ; K9687 K9676 ; K9712 K9676 ; N9999 N7147 N7034 N7023 ; ND07 ; B9999 B5094 B4977 B4740 ; K9745\*R ; B9999 B4535 ; B9999 B3736 B3690 ; B9999 B3792 B3747 ; B9999 B3816 B3747 ; B9999 B4728 B4568 ; B9999 B4988\*R B4977 B4740 Polymer Index [1.3] 018 ; B9999 B5118 B5107 B4977 B4740 Polymer Index [1.4] 018 ; D01 D11 D10 D23 D22 D31 D76 D45 D50 D93 F19 F73 ; A999 A157\*R ; A999 A771 Polymer Index [1.5] 018 ; D01 F07\*R ; R00415 D01 D11 D10 D50 D61 D68 D95 Sn 4A ; A999 A146 ; A999 A771 Polymer Index [1.6] 018 ; G2595\*R D01 D11 D10 D50 D63 D86 F41 ; A999 A475 Polymer Index [1.7] 018 ; F52 ; A999 A486\*R Polymer Index [1.8] 018 ; A999 A737 A691 Polymer Index [1.9] 018 ; D01 D11 D10 D63 F90 F41 F91 N\* 5A ; A999 A157\*R ; A999 A771 Polymer Index [1.10] 018 ; A999 A102 A077 Polymer Index [2.1] 018 ; P0088\*R ; M9999 M2073 ; L9999 L2391 ; L9999 L2073 ; S9999 S1014\*R ; S9999 S1036 S1014 Polymer Index [2.2] 018 ; P0839\*R F41 D01 D63 ; M9999 M2073 ; L9999 L2391 ; L9999 L2073 Polymer Index [2.3] 018 ; ND01 ; Q9999 Q7114\*R ; Q9999 Q7158\*R Q7114 ; Q9999 Q7170 Q7158 Q7114 ; Q9999 Q9234 Q9212 ; K9483\*R ; K9676\*R ;

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☐ 1. Document ID: EP 1242509 A1 WO 200146296 A1 AU 200114692 A US 20020082359  
A1

L3: Entry 1 of 1

File: DWPI

Sep 25, 2002

DERWENT-ACC-NO: 2001-570360  
DERWENT-WEEK: 200271  
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TITLE: Hyperbranched polyol macromolecule for coating composition formation, comprises central nucleus attached with chain extension having intermediate substituent to which another chain extension is attached

INVENTOR: RAMESH, S

PATENT-ASSIGNEE:

ASSIGNEE  
BASF CORP  
RAMESH S

CODE  
BADI  
RAMEI

PRIORITY-DATA: 1999US-0470405 (December 22, 1999), 2002US-0040819 (January 7, 2002)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
EP 1242509 A1	<del>September 25, 2002</del>	E	000	C08G083/00
WO 200146296 A1	<del>June 28, 2001</del>	E	020	C08G083/00
AU 200114692 A	<del>July 3, 2001</del>		000	C08G083/00
US 20020082359 A1	June 27, 2002		000	C08F020/00

DESIGNATED-STATES: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO  
SE SI AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB  
GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW  
MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW AT BE  
CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG  
ZW

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
EP 1242509A1	November 6, 2000	2000EP-0976996	
EP 1242509A1	November 6, 2000	2000WO-US30556	
EP 1242509A1		WO 200146296	Based on
WO 200146296A1	<del>November 6, 2000</del>	2000WO-US30556	
AU 200114692A	<del>November 6, 2000</del>	2001AU-0014692	
AU 200114692A		WO 200146296	Based on
<u>US20020082359A1</u>	<u>December 22, 1999</u>	1999US-0470405	Cont of
US20020082359A1	January 7, 2002	2002US-0040819	

INT-CL (IPC): C08 F 20/00; C08 G 63/60; C08 G 83/00; C09 D 201/00

RELATED-ACC-NO: 2002-392863

ABSTRACTED-PUB-NO: US20020082359A

BASIC-ABSTRACT:

NOVELTY - A hyperbranched polyol macromolecule comprises a central nucleus having hydrocarbon structure with many oxygen atoms, attached with chain extension (CE) (I) formed from compound comprising carboxyl and multiple hydroxyl groups. Intermediate substituent (IS) formed of polyfunctional carboxylic acid or anhydrides is attached to CE (I).

DETAILED DESCRIPTION - CE (II) made from compound with terminal epoxide group is attached to IS.

INDEPENDENT CLAIMS are also included for the following:

(i) Method of making a hyperbranched polyol macromolecule involving reacting a starter polyol with a first chain extender to form first generation branched core which is further optionally reacted with first chain extender to form subsequent generation branched core. The first or subsequent generation branched core is reacted with a controlled amount of an intermediate reactant such as carboxylic acid or anhydride to form an ester bridge in the resulting intermediate polyester macromolecule. A second chain extender is reacted with intermediate polyester macromolecule to form hyperbranched polyol having both primary and secondary hydroxyl groups;

(ii) Coating composition containing reaction product of macromolecule with an aminoplast and/or compound selected from isocyanate and isocyanurate.

USE - For preparation of high solid coating composition containing reaction product of macromolecule with an aminoplast and/or compound selected from isocyanate and isocyanurate (claimed), especially for clear top coat composition.

ADVANTAGE - The macromolecule improves the hardness and flexibility of the finished coating composition. The polyol has low viscosity suitable for coating operation. A film with excellent etch characteristic is obtained using the coating composition.

WO 200146296A

EQUIVALENT-ABSTRACTS:

NOVELTY - A hyperbranched polyol macromolecule comprises a central nucleus having hydrocarbon structure with many oxygen atoms, attached with chain extension (CE) (I) formed from compound comprising carboxyl and multiple hydroxyl groups. Intermediate substituent (IS) formed of polyfunctional carboxylic acid or anhydrides is attached to CE (I).

DETAILED DESCRIPTION - CE (II) made from compound with terminal epoxide group is attached to IS.

INDEPENDENT CLAIMS are also included for the following:

(i) Method of making a hyperbranched polyol macromolecule involving reacting a starter polyol with a first chain extender to form first generation branched core which is further optionally reacted with first chain extender to form subsequent generation branched core. The first or subsequent generation branched core is reacted with a controlled amount of an intermediate reactant such as carboxylic acid or anhydride to form an ester bridge in the resulting intermediate polyester macromolecule. A second chain extender is reacted with intermediate polyester macromolecule to form hyperbranched polyol having both primary and secondary hydroxyl groups;

(ii) Coating composition containing reaction product of macromolecule with an aminoplast and/or compound selected from isocyanate and isocyanurate.

USE - For preparation of high solid coating composition containing reaction product of macromolecule with an aminoplast and/or compound selected from isocyanate and isocyanurate (claimed), especially for clear top coat composition.

ADVANTAGE - The macromolecule improves the hardness and flexibility of the finished coating composition. The polyol has low viscosity suitable for coating operation. A

film with excellent etch characteristic is obtained using the coating composition.

CHOSEN-DRAWING: Dwg.0/0

TITLE-TERMS: MACROMOLECULAR COATING COMPOSITION FORMATION COMPRISE CENTRAL NUCLEUS  
ATTACH CHAIN EXTEND INTERMEDIATE SUBSTITUTE CHAIN EXTEND ATTACH

DERWENT-CLASS: A28 A82 G02

CPI-CODES: A05-E01A1; A08-D01; G02-A02E; G02-A05;

ENHANCED-POLYMER-INDEXING:

Polymer Index [1.1] 018 ; D50 D60 D85 D11 D10 G1081 G1070 G0997 D01 F29 F26 ; D31 D76  
D50 D60 D88 E24 E00 D11 D10 D14 D13 G1365 G1343 G1310 G4024 D01 F37 F35 ; R00516 G0760  
G0022 D01 D24 D22 D32 D42 D51 D53 D59 D65 D77 D88 F39 E00 E05 ; R00554 G1343 G1310  
G4024 D01 D19 D18 D31 D50 D60 D76 D88 F37 F35 E00 E19 ; R01023 G1343 G1310 G4024 D01  
D19 D18 D31 D50 D60 D76 D88 F37 F35 E00 E20 ; R00517 G1401 G1398 G4024 D01 D24 D22 D32  
D42 D50 D65 D77 D88 F39 E00 E19 ; R00515 G1401 G1398 G4024 D01 D24 D22 D32 D42 D50 D65  
D77 D88 F39 E00 E24 ; A999 A157\*R ; A999 A782 ; L9999 L2391 ; L9999 L2186\*R ; H0099  
H0011 ; P0919 P0839 F41 D01 D63 ; H0022 H0011 ; L9999 L2528 L2506 Polymer Index [1.2]  
018 ; ND01 ; Q9999 Q7114\*R ; K9483\*R ; K9712 K9676 ; B9999 B4397 B4240 ; B9999 B3792  
B3747 ; B9999 B4580 B4568 ; B9999 B4591 B4568 ; B9999 B3930\*R B3838 B3747 ; B9999 B5005  
B4977 B4740 ; K9870 K9847 K9790 Polymer Index [1.3] 018 ; D01 D03 D31 D73 D42 D50 D84  
F47 D89 D11 D10 D23 D22 ; H0226 Polymer Index [1.4] 018 ; D01 D31 D73 D42 D50 D84 D86  
D88 D90 D11 D10 D23 D22 ; R10004 G1558 D01 D11 D10 D23 D22 D31 D42 D50 D69 D73 D83 F47  
F\* 7A ; H0226 Polymer Index [1.5] 018 ; D01 F73 ; A999 A157\*R ; A999 A771 Polymer Index  
[1.6] 018 ; D01 D76 D45 F19 D23 D22 ; A999 A157\*R ; A999 A771 Polymer Index [1.7] 018 ;  
R02057 D01 D11 D10 D50 D60 D76 D93 F62 ; A999 A146 Polymer Index [2.1] 018 ; R00001  
G1503 D01 D50 D81 F22 ; R00859 G1809 G1649 D01 D23 D22 D31 D45 D50 D76 D83 F19 F10 F07  
; A999 A157\*R ; A999 A782 ; M9999 M2200 ; H0022 H0011 ; P0259\*R P0226 D01 ; P0260  
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B4240 ; B9999 B3792 B3747 ; B9999 B4580 B4568 ; B9999 B4591 B4568 ; B9999 B3930\*R B3838  
B3747 ; B9999 B5005 B4977 B4740 ; K9870 K9847 K9790 Polymer Index [2.3] 018 ; D01 D63  
F29 F26 F90 F41 ; A999 A157\*R Polymer Index [3.1] 018 ; D50 D63 F29 F26 D11 D10 ; H0271  
; L9999 L2471 ; L9999 L2186\*R Polymer Index [3.2] 018 ; R01714 D00 D60 H\* O\* 6A S\* ;  
C999 C259 ; C999 C022 C000 Polymer Index [4.1] 018 ; P0464\*R D01 D22 D42 F47 ; M9999  
M2186 ; M9999 M2324 ; L9999 L2391 ; L9999 L2186\*R ; L9999 L2324 ; H0226 ; L9999 L2744  
L2733 Polymer Index [4.2] 018 ; H0226

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C2001-169454

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Desc	Image
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